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Cultural Consensus in Lending to Knowledge-Based Businesses

Gary Gorman
Memorial University

Peter J. Rosa
University of Edinburgh

Alex Faseruk
Memorial University

Previous research reveals a consistent culture of lending by financial institutions when conventional business proposals are evaluated. Consistency may not be displayed for proposals based on knowledge-based business (KBB) with weak collateral and track record. In addressing this gap it is difficult to conceptualize and measure culture across diverse financial lending institutions. Consensus analysis was employed to research the nature of consensus across institutions in Eastern Canada. Respondents were asked to review two-stage conventional and KBB proposals. A high level of consensus was observed for all account managers from diverse institutions when considering a traditional proposal, but divergent trends emerged when considering the KBB proposal. KBB specialists exhibit high consensus with each other but differ sharply from the culture of other account managers. Results should interest entrepreneurs, finance researchers and policymakers.

INTRODUCTION

This paper examines the nature of consensus in the loan-granting practices of financial institutions to knowledge-based businesses (KBBs). Lending institutions have developed complex rules and regulations in lending to individuals and business clients whose credit worthiness is based on conventional criteria, such as the 5 Cs-collateral, capital, conditions, capacity and character (Hays 1977). Often KBBs do not satisfy all these conventional criteria. KBBs often represent unproven business models with few physical assets to pledge as collateral; thus, there is a tendency for lenders to avoid the KBB sector.

Gorman (2002) found that banks take a traditional approach to risk assessment, emphasizing collateral in the form of physical, tangible security, often to the detriment of KBBs which could potentially lead KBBs to ignore bank financing as indicated by Binks, Ennew and Reed (1992). However, KBBs are seen to be important by governments and development agencies, as they have great potential for creating new high value jobs as demonstrated by the Organization for Economic Co-operation and Development (OECD 1996) and Huot and Carrington (2006). KBBs are particularly important for peripheral regions where traditional industries have either declined or disappeared (Atlantic Provinces Economic Council 1997). Accordingly, governments tend to encourage the development of a support infrastructure for launching new KBBs (Gorman and McCarthy 2006; Wang 2009). While lending

institutions ought to develop procedures to address these borrowing needs, there are no existing paradigms to guide the development (Vequist 2008). Each lending institution may respond individually to the needs of its client base and adapt its procedures accordingly. Therefore, we expect considerable differences to be exhibited by lending officers from different financial institutions.

We might, however, expect significant agreement among individual lenders if rules and procedures were more highly developed, written down and implemented by the lending institutions. Mason and Stark (2004) demonstrate a high level of consistency among bankers reviewing proposals, likely resulting from highly structured and standardized approaches used by banks. We postulate that even though requirements for lending to KBBs are new, their incorporation into their procedures could be rapid and effective through, for example, a systematic and focused response to advice from central policy makers, such as a government department. Another factor that might lead to agreement could be a common lending culture through education, training and experience in lending practices. Lenders could engage in shared training and education programs (Bruns et al. 2008) with procedures made available to all lending institutions serving KBB clients. Another homogenizing factor could be mobility of staff between institutions. This could be significant if the staff who move are senior managers with considerable authority to introduce practices developed in their former institution.

Although there is a growing literature on how loan officers behave when dealing with small business clients (Berger and Udell 2003; Scott 2006; Bruns et al. 2008), there has been a paucity of research on lending procedures to KBBs. Gorman, Rosa and Faseruk (2005) analyzed the nature and procedures of institutional lending to KBBs in Eastern Canada demonstrating that lending institutions, particularly banks, have made efforts to modify lending practices to accommodate the needs of KBBs. Now most offer products and services designed specifically to meet the needs of KBBs. Some jurisdictions have established lending centers with account managers trained to handle specialist aspects of loan evaluation, such as technology assessment and intellectual capital valuation. However, the extent to which consensus exists in evaluating KBB loan applications was not examined in detail. This paper addresses this gap by providing an analysis of consensus and lending to the KBB sector in Eastern Canada.

Kakuru (2008), in examining lending practices to SME clients, found that knowledge of institutional lending procedures by the SME owner was one of the most influential factors in the loan officer's decision to extend credit which may imply that consensus in lending criteria and practices are important for knowledge-based clients. A lack of consensus may produce a confusing set of signals for entrepreneurs. It is also possible to argue that lack of consensus can be an advantage to an entrepreneur who knows this as he or she can just "play the field" until a more sympathetic lender can be found by exploiting this information asymmetry. In either case, it is important to establish the level of consensus both within and between lending institutions. It would be of considerable interest both to entrepreneurs faced with the uncertainties of seeking financing from KBBs and to governments seeking better ways to alleviate the difficulties that entrepreneurs face.

The study focuses on the following questions:

1. Does a common culture of lending exist across various lending institutions?
2. Does a common culture of lending exist within the same type of institution?
3. Does a common or shared culture of lending to KBBs exist among account managers in commercial banks and government agencies?
4. To what extent does the lending culture within commercial banks and government agencies reflect the needs of KBBs?

No attempts have been undertaken to analyze consensus systematically in the context of commercial lending decisions in general (Mullen et al. 2009) and to KBBs in particular. A number of approaches could be employed to research these four questions. The most direct test would be a content analysis of bank documents outlining regulations and procedures in lending to KBBs and a comparison among the lending institutions under study. Loan officers could be observed applying these procedures and interviewed to explain the rationale for their decision-making, with special attention being paid to

instances when decisions ignore or contradict their regulations or practices. Comparisons could then be made between both lending procedures/regulations and the actual implementation of these regulations.

Unfortunately, a direct test of the hypothesis is not practical owing to the extreme reluctance of banks and other lending institutions to release sensitive documents, as well as ethical reasons preventing direct observation of real lending discussions. The latter can be bypassed by asking loan officers to examine hypothetical business plans and through analysis of verbal protocols (Gorman 2002). This approach is elaborated on in the methodology section. The challenge of capturing cultural consensus is difficult. We dealt with this challenge by adopting consensus analysis, a technique pioneered in the field of applied cognitive anthropology, to detect the existence of common cultures within complex organizations. It has a special advantage in being proven to be particularly robust when analyzing small samples. In applying this approach, we emphasize that it is an inductive approach designed to enhance the understanding of common lending cultures toward KBBs.

METHODOLOGY

Gorman, Rosa and Faseruk (2005) discussed the desirability of observing decision-making under actual conditions. Examining actual lending decisions increases reliability and provides details of the processes and criteria that could not be obtained otherwise (Leblebici and Salancik 1981; Sandberg, Schweiger and Hofer 1988; Fletcher 1995; McNamara and Bromiley 1997). Such an approach also addresses the concern that the decision-making process and evaluation criteria should not be dealt with independently (Boocock and Woods 1997) and the concerns associated with post hoc self-report data (Shepherd 1999; Zacharakis and Myer 1998; Bruns et al. 2008) whether obtained through interview or survey. Since neither the banks nor government agencies permit direct observation of actual cases, this alternate approach was used.

Two business plans were developed specifically for this research, one for a KBB (TeleCare Incorporated) and one for a more traditional venture (Glacier Ice Incorporated). TeleCare Incorporated is a telemedicine-based medical service venture that proposes to offer medical diagnosis, consultation and monitoring of patients with cardiovascular disease at a distance, while Glacier Ice is a resource-based harvesting and manufacturing venture that proposes to harvest and process glacier ice to produce specialty products, such as ice blocks, cubes and crushed ice for sale to industrial, institutional and retail consumers.

In order to control for issues of historical data and relationship banking effects (Scott 2006), the plans focused on start-up situations involving hypothetical entrepreneurs. The proposals were designed to reflect contrast in a number of key dimensions of knowledge-intensity, especially in the area of human capital (Gorman and McCarthy 2006). The proposals and their protocols were piloted in three organizations, a bank and two government agencies.

In the first stage, bound copies of the proposals were submitted to account managers for an initial review. The account managers were selected by the senior commercial credit person in the case of the banks and by the departmental director/manager in the case of the government agencies. Each account manager reviewed one proposal. Allocation of proposals to account managers was also based on input from the senior individual in each organization. The account managers were provided with only limited advance information on the proposals, including the nature of the venture and the magnitude of the funding requirements.

In the initial review stage, verbal protocols (Ericsson and Simon 1980) were used to capture the perceptions, opinions, comments, questions and concerns expressed by account managers. Immediately following this initial review, each account manager was asked to rate the proposal in 13 areas (Appendix 1). These factors were adapted from previous studies on bank lending in Canada (Wynant and Hatch 1991; Thompson Lightstone and Company 1998).

In the second stage, which involved conducting due diligence, account managers were asked to identify additional information requirements. This information was transmitted by mail, fax, phone and e-mail and enabled an assessment of the importance of additional information.

Finally, in the third stage (post review), following due diligence, account managers were interviewed to determine the funding decision in order to ascertain the decision-making processes and criteria employed. This interview was semi-structured, thereby permitting more intensive study of perceptions, attitudes and motivations than a standardized interview (Selltitz, Wrightsman and Cook 1976). Account managers were again asked to rate the proposal on the same 13 dimensions.

Consensus Analysis

Consensus analysis (CA) was originally developed as a technique for determining which respondents are most knowledgeable and reliable in a particular cultural context (Caulkins and Hyatt 1999). The theory was motivated by the fact that, when exploring new cultures and asking questions of individuals, neither the correctness of answers to the questions nor the cultural competence of the respondents is known (Romney, Batchelder and Weller 1987). CA is based on the assumption that there is one culture which is the same for all members of a group and that members of the group possess varying degrees of knowledge with respect to a particular subject (Romney, Weller and Batchelder 1986). CA also specifies the conditions under which more agreement among individuals on correct answers to questions indicates more knowledge on their part (Borgatti 1996b). There are three assumptions underlying the CA methodology, (Borgatti, 1996b, p. 45):

“Translated into the anthropological context, they are as follows:

1. One Culture. It is assumed that, whatever cultural reality might be, it is the same for everyone. There are no subcultures that have systematically different views on a given topic. All variability is due to variations in amount of knowledge.
2. Independence. The only force drawing people to a given answer is the “culturally correct” answer. When informants do not know an answer, they choose or make up one independently of each other.
3. One Domain. All questions are drawn from the same underlying domain.”

Domain in this context refers to a body of knowledge on a particular topic or subject. In CA all questions must be drawn from a single domain. The consensus model makes no presumptions as to what constitutes a correct answer. The theory uses consensus among respondents to ascertain the “culturally correct” responses and subsequently infers the level of knowledge of each informant on the basis of the relationship to the shared culture. CA is useful in determining patterns of agreement among respondents concerning a particular domain, what information is culturally correct within the group, and how well informed each individual is with respect to the domain (Caulkins and Hyatt 1999). According to Romney, Weller and Batchelder (1986), one useful advantage of CA is the ability to produce reliable results with as few as four respondents.

Caulkins and Hyatt (1999) argue that CA should not be limited to the study of high-agreement domains. The authors propose a typology for conceptualizing and examining diversity in non-coherent or low-consensus domains consisting of the following: weak agreement domains, turbulent domains and multi-centric domains. The latter is comprised of two subcategories: sub-cultural domains where there are two or more groups expressing different but not opposite views, and contested domains where groups take opposing perspectives. A weak agreement domain is characterized by an elbow-bend scree plot of eigenvalues and no negative knowledge scores. Knowledge scores indicate the percentage of culturally correct responses for each respondent. They are computed by comparing each respondent’s answers to the culturally correct answer as determined by the group consensus. Negative knowledge scores indicate that respondents disagree with, or hold opposing views, to the group.

The scree plot is relevant as a simple line segment plot to show that fraction of total variance in the data as explained or represented by each principal component within a principal component analysis. Turbulent domains are characterized by a straight-line descending scree plot of eigenvalues and, also, no negative knowledge scores. Groups from sub-cultural domains are distinguished by the appearance of two or more “answer keys”, while groups from contested domains are represented by negative knowledge

scores. This typology of group membership is utilized to examine diversity among various groups of account managers.

Insofar as a “culture of lending” may exist among account managers in lending institutions, CA is utilized in this study as a means of exploring the existence, nature and pervasiveness of this culture. This study explores the extent to which a common culture exists among members of the lending community and the extent to which the underlying elements of that culture differ in the context of lending to KBB. Does the assumption of a common culture, underlying the theory of CA, apply in the lending context and if so, how far does this consensus extend? Therefore, CA theory makes a key contribution to the objectives of this research.

This study uses the CA software ANTHROPAC (Borgatti 1996a) to examine the ratings obtained from account managers at the first two stages of the loan review process which generates three measures useful in assessing the level of agreement among respondents. First, the ANTHROPAC program creates and factor analyzes a matrix of agreement among respondents. Borgatti (1996b) contends that the presence of two large eigenvalues is strong evidence of more than one culturally correct pattern of responses. A ratio of less than 3 to 1 between the eigenvalues for the first two factors indicates the assumption of one culture does not hold. Second, the program computes a knowledge score for each respondent. The knowledge score represents the extent to which each respondent agrees with the group response. Third, ANTHROPAC produces an answer key or culturally correct response key for the group. Analysis of the culturally correct response keys is undertaken to identify the elements underlying consensus and to explain differences that exist among groups of account managers.

Account managers conducted their initial review and provided assessments without using formal evaluation instruments and the benefit of the full due diligence process. Risk assessment, as reflected in the proposal ratings, is likely to indicate initial reactions and perceptions, presumably based on previous experience and preconceptions. It was, therefore, considered unlikely that a high level of agreement or consensus would emerge at the initial review stage. At the post review stage, account managers provided feedback based on a more complete assessment, following the full due diligence process. Consequently, it was anticipated that there would be a higher level of agreement and potentially consensus at the post review stage.

Our results focus primarily on analyses of the data obtained from the account managers’ ratings at the post review stage. Comparisons between post review ratings and initial review ratings are highlighted and summarized where appropriate. Further, comparisons of findings are made on the basis of the following a priori groups: account manager type (government and bank), type of plan reviewed (traditional and KBB), and account manager focus (generalist and KBB).

RESULTS

A total of 23 account managers, 13 in banks and 10 in government agencies, participated in the business plan reviews and semi-structured interviews. Eleven participants reviewed the more traditional business proposal (Glacier Ice), while the other 12 reviewed the knowledge-based business proposal (TeleCare). A total of five account managers, three in government and two in banks, indicated having a specific focus on KBBs.

Does a Common Culture of Lending Exist Among All Lending Institutions?

As a first step in assessing the existence of a shared lending culture, data from the post review ratings for all account managers were analyzed using consensus analysis software available in ANTHROPAC (Borgatti 1996a). Summary CA results for all groups of account managers are presented in Table 1 and referenced throughout the results section.

The ratio of 2.761 between the first and second factors and the plot of the eigenvalues indicate low consensus which demonstrates weak agreement within the group, even though the first factor accounts for 60.1% of the variance, which is consistent with the CA from the initial review. Initial review results: ratio of first eigenvalue to second = 2.199 with the first factor accounting for 56.9% of the variance and the

second explaining 25.9%.

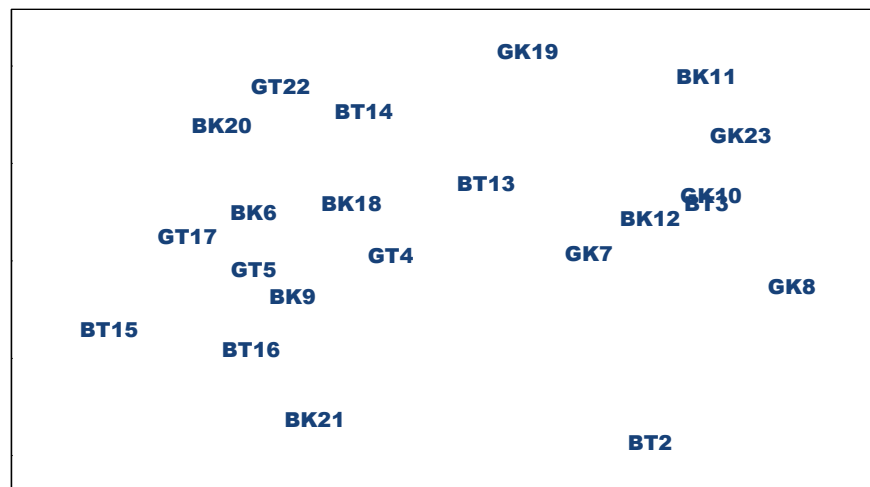
TABLE 1
SUMMARY OF CONSENSUS ANALYSIS RESULTS INITIAL AND POST REVIEWS:
ALL ACCOUNT MANAGERS

Group	Initial Review		Post Review	
	Ratio	n	Ratio	n
Overall	2.199	20	2.761	23
Government	1.536	7	2.398	9
Banks	1.678	12	2.450	13
Traditional Proposal	1.494	10	3.301	10
KBB Proposal	3.687	9	2.272	12
KBB Specialists	4.687	4	100.0%	5
Generalists	2.100	15	3.221	17
Gov't minus BDC	1.119	5	100.0%	6
Banks minus KBB	1.028	10	3.494	11

Note: cases highlighted in bold indicate consensus.

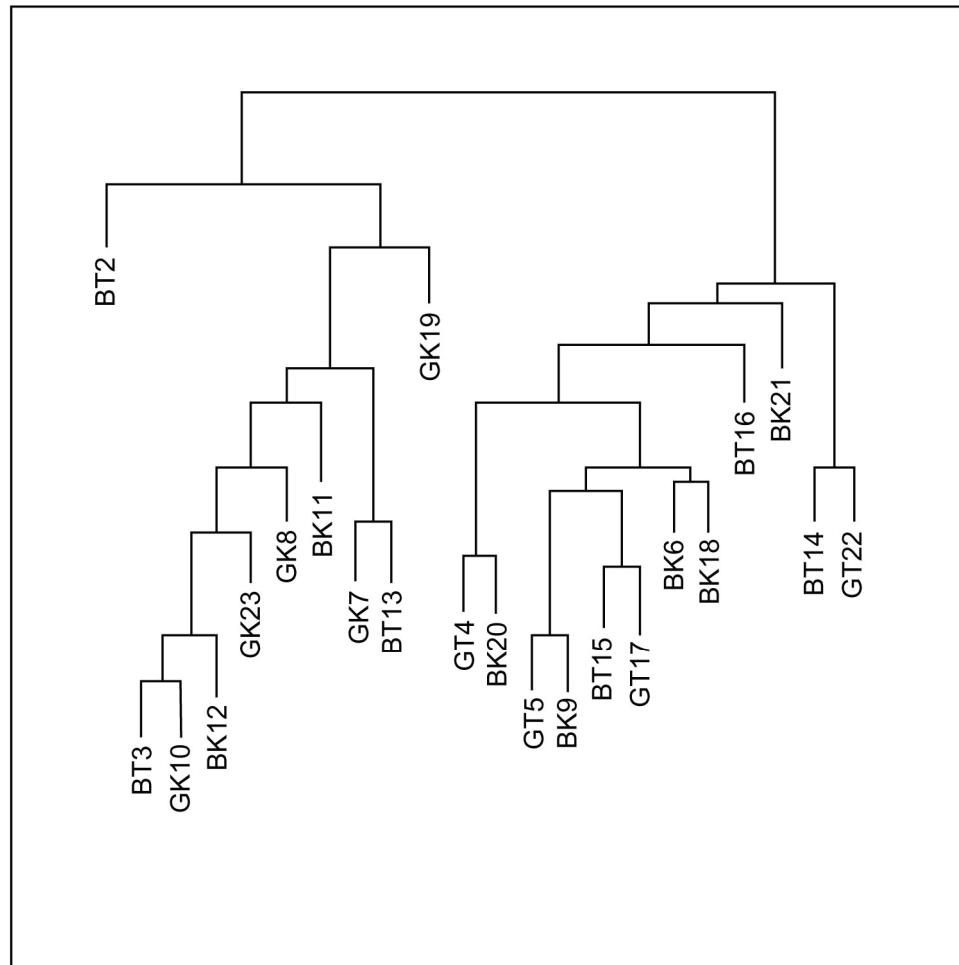
At the second stage, the post review data were analyzed using non-metric multi-dimensional scaling (MDS). MDS provides a visual representation of the pattern of similarities or distances among a set of objects that can be scanned at a glance (Borgatti, 1996b). According to Borgatti (1996b), euclidean distances are typically computed instead of correlations when comparing profiles of respondents across variables. Euclidean distance is the square root of the sum of the squared differences between corresponding elements of two vectors, where a vector is a row consisting of n numbers or variables. As the interest here is in comparing patterns of responses among account managers, euclidean distance was selected as input to MDS. Results of the MDS for the post review data are presented in Figure 1 and confirm the pattern of weak agreement identified in the CA.

FIGURE 1
MULTIDIMENSIONAL SCALING - POST REVIEW: ALL ACCOUNT MANAGERS
(B = BANK MANAGER, G= GOVERNMENT ACCOUNT MANAGER,
K= KBB BUSINESS PROPOSAL, T = TRADITIONAL
BUSINESS PROPOSAL)



Hierarchical clustering was employed to identify groups more clearly and to examine grouping patterns in further detail. The cluster analysis presented in Figure 2 reveals the formation of two almost equal size clusters, each of which is comprised of a mix of account managers from banks and government agencies and a mix of account managers that reviewed each of the two proposals. Further, one cluster is situated entirely in the left portion of the MDS diagram (Figure 1), while the second group appears to the right. One group is comprised of BT2, BT3, GK10, BK12, GK23, GK8, BK11, GK7, BT13, and GK19. The other is comprised of GT4, BK20, GT5, BK9, BT15, GT17, BK6, BK18, BT16, BK21, BT14 and GT22. Results of the cluster analysis support those of the CA and MDS and confirm the existence of several different cultures. Lack of consensus among the entire group of account managers is not surprising given the diversity of organizations and the fact that account managers reviewed different proposals.

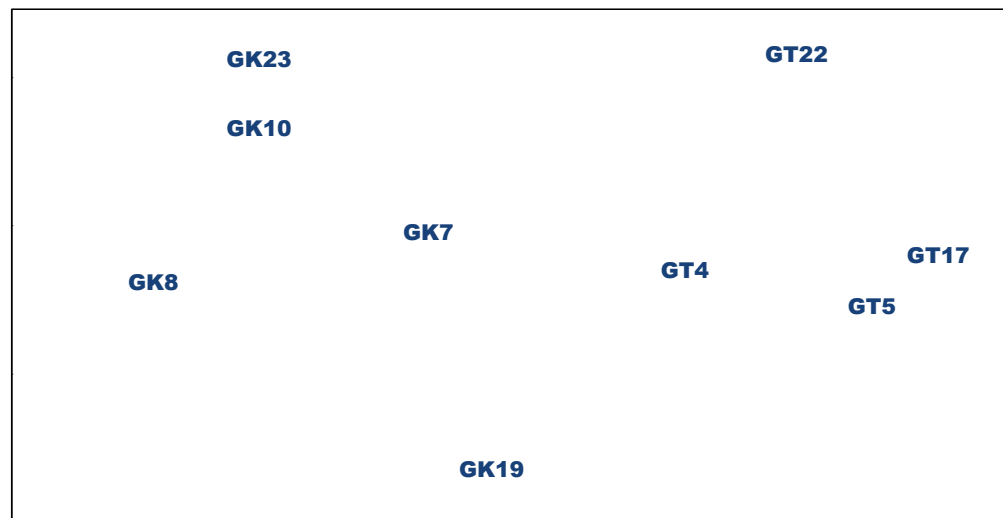
FIGURE 2
HIERARCHICAL CLUSTERING – POST REVIEW-ALL ACCOUNT MANAGERS
BASED ON AGGLOMERATIVE CLUSTERING LINKAGE METHOD



Does a Common Lending Culture Exist Within the Same Type of Institution?

To address this question, the data were segmented by account manager type (government and bank), type of plan reviewed (traditional and KBB), and account manager focus (generalist and KBB). Data for each of these groups were subjected to CA to determine whether new patterns of agreement or disagreement emerged. MDS was again used to display consensus patterns. The data for the government account managers reveal that this group fails to reach consensus as evidenced by the ratio of 2.398 between the eigenvalues for the first two factors (Table 1). Initial review results: ratio of first eigenvalue to second = 1.536 with the first factor accounting for 44.8% of the variance and the second factor explaining 29.2%. The domain indicates a highly turbulent perspective among members. The diversity of opinion among the government account manager group is clearly evident in the MDS diagram presented in Figure 3.

FIGURE 3
MULTIDIMENSIONAL SCALING - POST REVIEW: ALL GOVERNMENT
ACCOUNT MANAGERS



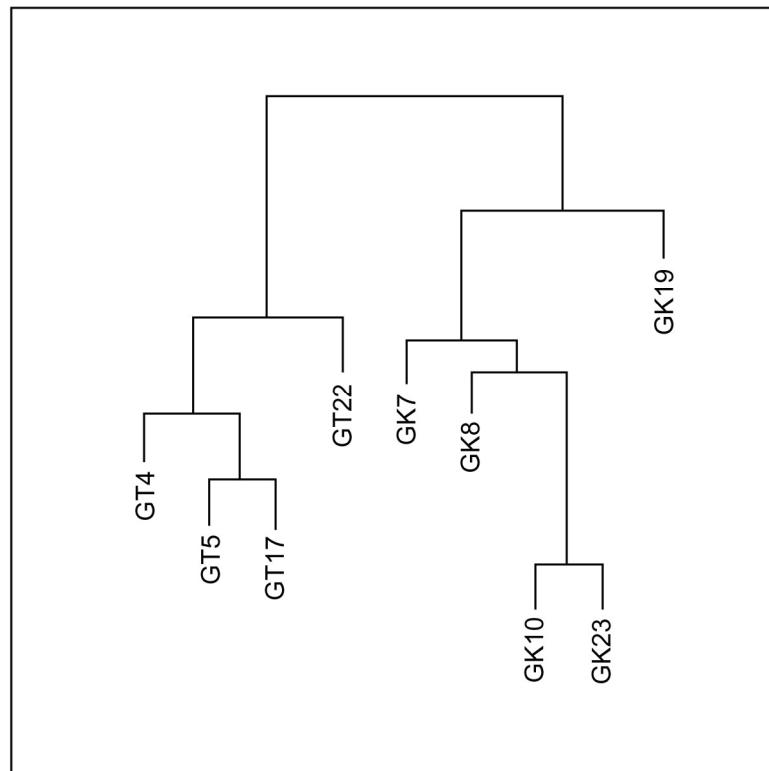
However, on closer examination a rather unique clustering pattern is visible. The account managers that reviewed the traditional proposal are all clustered to the right in the diagram, while those that reviewed the KBB proposal are all grouped to the left. Hierarchical clustering was used to examine this phenomenon in more detail. The results of the cluster analysis, presented in Figure 4, confirm the presence of two primary clusters and their unique composition, suggesting higher levels of agreement within groups of account managers reviewing the same proposal.

One further modification was made to the government category to enable additional analysis; the three account managers from the Business Development Bank of Canada (BDC) were extracted from the group. Interviews with staff and the review of secondary material confirm BDC's mandate is more closely aligned with the banks than it is with the other three government agencies, which focus more on regional or provincial economic development. Prior to 1995, BDC had undertaken the role of lender as last resort but legislative changes enacted that year allowed BDC to be a complementary lender. As a result, it may be unreasonable to consider BDC account managers in the same light as other government account managers. Subsequent CA, performed on the remaining group members, revealed a high agreement domain with 100% of the variance accounted for by a single factor (Table 1). These results confirm the existence of differences between BDC account managers and the rest of the group and indicate a common

culture among government agencies that share an economic development mandate.

Results of the CA performed on the bankers (Table 1) indicate considerable diversity of opinion among the members of this group at the post review stage (eigenvalue ratio of 2.450); the straight-line plot of the eigenvalues signals a highly turbulent and diverse domain. Initial review results: ratio of first eigenvalue to second = 1.678 with the first factor accounting for 50.5% of the variance and the second factor explaining 30.1%.

FIGURE 4
HIERARCHICAL CLUSTERING – POST REVIEW: ALL GOVERNMENT ACCOUNT MANAGERS



It is worthy of note that the CA when performed on the bank group and the three BDC account managers together resulted in virtually no change in the level of agreement. The eigenvalue ratio between the first two factors is 2.438 with the first factor accounting for 56.3% of the variance and the second factor explaining 23.1% of the variance. A reasonable interpretation is that the BDC group fit well with the bankers, reinforcing the previous result concerning the differences between the BDC and the other government agencies. Results of MDS (Figure 5) demonstrate diversity and turbulence among the bankers post review.

The finding of such diversity of opinion within the bank account manager group post review is surprising. Bankers were expected to be more structured and consistent in their approach to risk assessment, especially following the due diligence process. As a result, one further modification was made to the bank group; the two KBB specialists were removed from the group to permit an assessment of the consensus among the more traditional lenders. Discussions with bank staff and the review of secondary support material confirm five of the chartered banks take a different approach to KBB, utilizing KBB lending centers with KBB specialists. It is reasonable to expect some intra-cultural variability within a group comprised of both KBB specialists and traditional commercial lenders. CA results for the bank

account managers with the KBB specialists removed (Table 1) indicate a very different picture with a high level of agreement among the more traditional bank lenders. Figure 6 presents the results of the MDS for this subgroup, providing a picture of consensus among the traditional commercial lenders, a sharp contrast to the results for the overall group of bankers presented in Figure 5.

Overall, the finding of consensus among account managers in government agencies that share an economic development mandate and the finding of consensus among traditional bank account managers confirm the existence of common lending cultures within similar institutions.

FIGURE 5
MULTIDIMENSIONAL SCALING - POST REVIEW: ALL BANK ACCOUNT MANAGERS

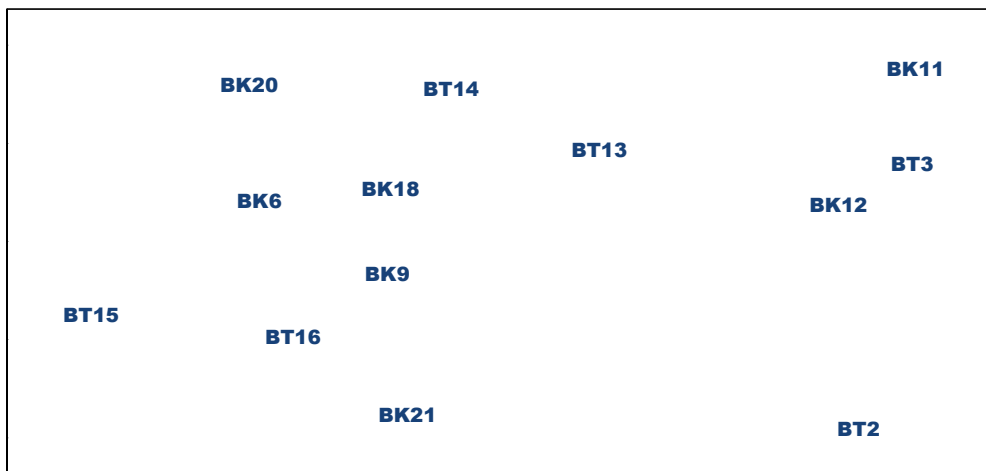
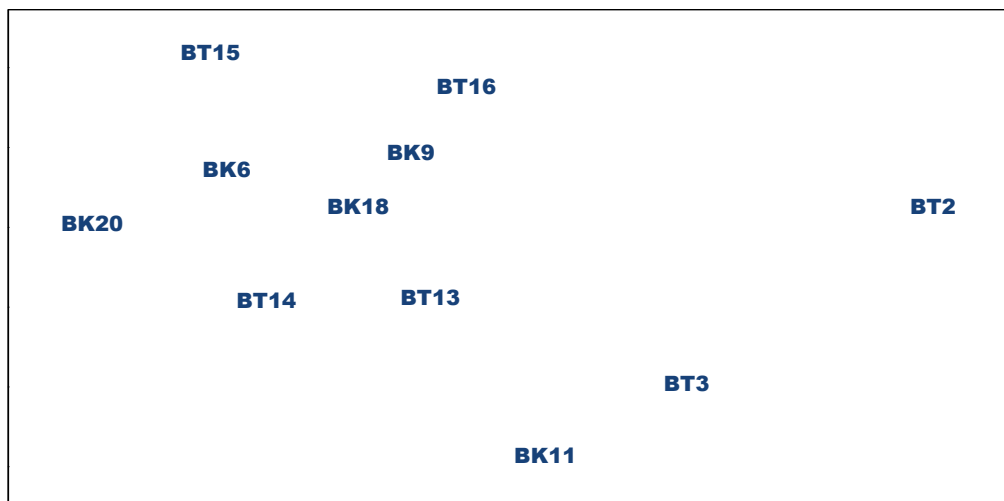


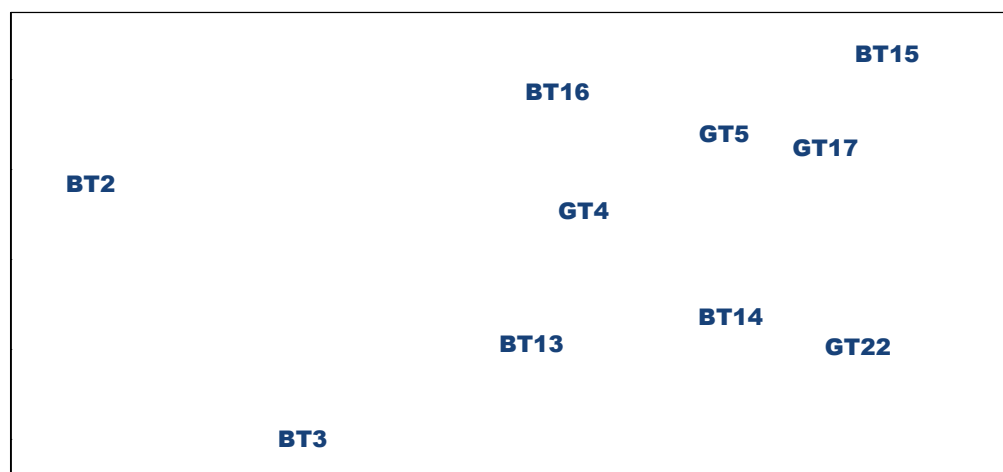
FIGURE 6
MULTIDIMENSIONAL SCALING – POST REVIEW: TRADITIONAL BANK ACCOUNT MANAGERS



Does a Common or Shared Culture of Lending to Kbbs Exist Among Account Managers in Commercial Banks and Government Agencies?

To address this question, data were analyzed by type of proposal reviewed (traditional and KBB) and by account manager focus (generalist and KBB). Results of the CA at the post review stage for the group of account managers who reviewed the traditional business plan (Table 1) confirm a high level of agreement within the group with an eigenvalue ratio of 3.301 and the first factor explaining 64.9% of the variance. Initial review results: ratio of first eigenvalue to second = 1.494 with the first factor accounting for 50.0% of the variance and the second factor explaining 33.4 %. The high level of agreement among members of this group is visible from the MDS results in Figure 7. The mix of account managers from banks and government agencies is also noticeable in the primary cluster at the right.

FIGURE 7
MULTIDIMENSIONAL SCALING - POST REVIEW: TRADITIONAL BUSINESS PLAN



CA results for those reviewing the KBB proposal (Table 1) reveal a pattern of weak agreement with an indication of two sub-cultural groupings. Initial review results: ratio of first eigenvalue to second = 3.687 with the first factor accounting for 68.1% of the variance and the second factor explaining 18.5%. The two groups are depicted quite clearly in the MDS results in Figure 8. A review of these results also reveals that, with two exceptions (BK11 and BK12), one group is comprised entirely of bank account managers, while the other is comprised primarily of government account managers. The group on the right is comprised of BK18, BK20, BK9, BK6 and BK21, while the group on the left is comprised of GK23, GK10, GK8, GK7 and GK19. There is a higher level of agreement within each of the two groups than exists for the entire group who reviewed the KBB proposal. This finding is consistent with earlier results confirming the existence of common lending cultures within similar institutions.

The final a priori grouping contrasts account managers with a KBB focus with the more generalist account managers, those with a non-KBB focus. Results of the CA for those with a KBB focus (Table 1) indicate the presence of high agreement with 100.0% of the variance accounted for by a single factor. This group also exhibited consensus at the initial review stage. Initial review results: ratio of first eigenvalue to second = 4.487 with the first factor accounting for 82.1% of the variance and the second explaining 17.9%.

Results of the CA for the final group of account managers, those with a non-KBB or more general focus, also indicate consensus; the eigenvalue ratio between the first two factors is 3.221 (Table 1). Initial review results: ratio of first eigenvalue to second = 2.100 with the first factor accounting for 57.4% of the variance and the second factor explaining 27.3%. The pattern of agreement at the post review stage is evident on review of the MDS results presented in Figure 9. Also noteworthy is the makeup of the core

group depicted in the lower left of the diagram comprised of account managers from banks and government agencies and account managers that reviewed both types of proposals.

FIGURE 8
MULTIDIMENSIONAL SCALING - POST REVIEW: KNOWLEDGE-BASED BUSINESS PROPOSAL

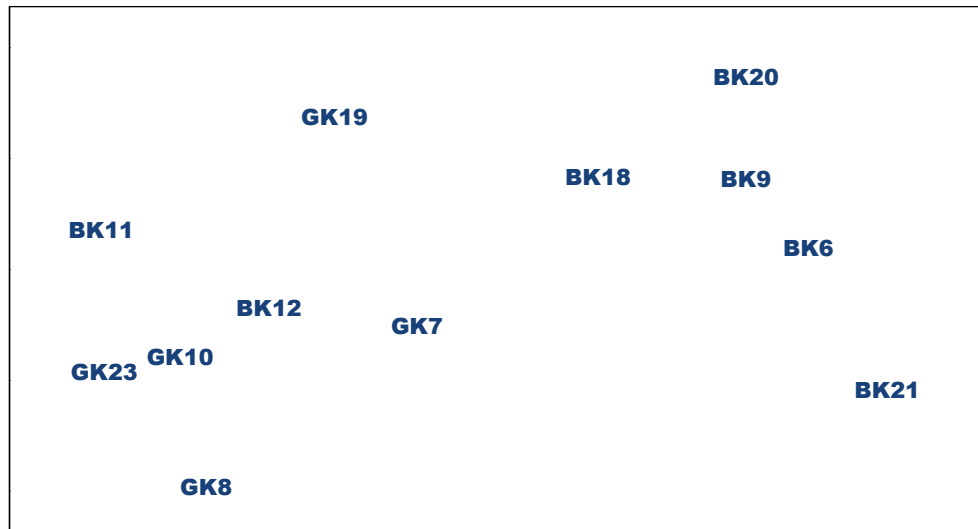
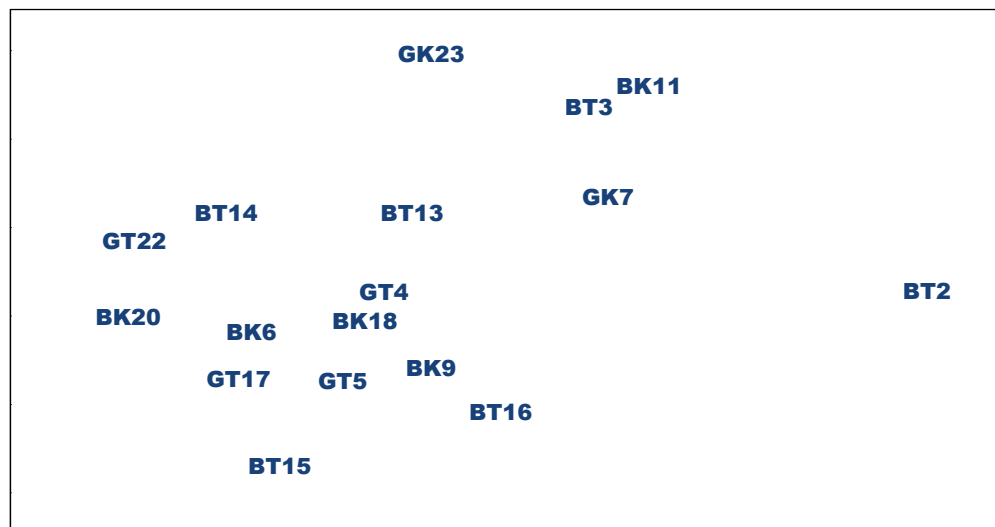


FIGURE 9
MULTIDIMENSIONAL SCALING - POST REVIEW: ACCOUNT MANAGERS WITH A NON-KBB FOCUS



Overall, these findings provide evidence of a shared culture of lending to KBBs among account managers in chartered banks and government agencies, although consensus is strongest among specialist account managers who focus on KBBs.

To What Extent Does the Lending Culture Within Commercial Banks and Government Agencies Reflect the Needs of Kbbs?

To address this question data from the post reviews were compared to data from the initial review stage, which revealed several interesting findings. The comparison between post review and initial review results confirms a shift towards a greater level of agreement among account managers in all groups, except those reviewing the KBB proposal. It also confirms the existence of consensus among a significantly greater number of groups (Table 1).

In some cases, these groups are comprised of a mixture of account managers in terms of both organizational affiliation and type of plan reviewed. However, subgroups comprised exclusively of bankers, government account managers, generalists, those with a KBB focus, and those that reviewed the traditional proposal also demonstrate consensus. Factor analysis performed on the initial and post review data indicate convergence among the variables at the post review, stage when compared to the initial review. This provides support for the findings from the CA indicating a shift in direction toward more agreement among account managers in all groups. Examination of the culturally correct response keys provides some insight into the differences between groups and between the initial and post review stages. A review of the response keys at the post review stage (Table 2) reveals two notable differences (in bold).

TABLE 2
CULTURALLY CORRECT RESPONSE KEYS - POST REVIEW

Variable	Bank	Govt	Trad	KBB	Spec	Gen	All
Market potential	4.25	4.47	3.74	4.77	5.08	4.01	4.31
Business plan	4.17	4.11	3.95	4.34	5.02	3.84	4.14
Collateral/security	2.03	2.65	2.07	2.40	2.29	2.16	2.24
Proven product/service	2.37	2.81	2.13	2.78	4.11*	2.06	2.50
Potential funding available	4.15	3.92	3.49	4.47	4.88	3.59	4.03
Stage of development of firm	2.92	2.79	2.45	3.19	2.72	2.75	2.83
Track record of entrepreneurs	2.66	4.02*	3.05	3.22	4.27	2.79	3.14
Uniqueness of product/service	5.08	5.16	5.19	5.06	4.65	5.13	5.13
Potential cash flow	3.54	3.49	2.81	3.91	5.12	3.03	3.47
Management team	4.26	4.14	3.90	4.54	4.45	4.15	4.20
Demonstrated market acceptance	2.64	2.90	2.29	3.03	4.17	2.35	2.73
Logistics and facilities	2.85	3.05	2.38	3.55	3.79	2.50	2.95
General economic conditions	4.07	4.25	3.24	4.82*	3.95	4.05	4.13

Spec = account manager with a KBB focus; Gen = account manager with a non-KBB focus

* sig. $p < .05$ – based on t-tests of means, not weighted averages.

First, the comparison between account managers that reviewed the traditional plan and those that reviewed the KBB plan reveals only one area, general economic conditions, where the KBB group was significantly more positive in their ratings of the KBB proposal. However, with the exception of uniqueness of product/service, those that reviewed the KBB proposal were more positive across all variables. Second, comparing account managers with a KBB focus to their more generalist counterparts indicates the ratings of the KBB specialists are higher for all variables with the exception of stage of development of the firm and general economic conditions, although the difference is significant only for proven product/service.

Comparing the culturally correct response keys at the post review stage to those generated at the initial review stage also reveals some interesting differences, especially in terms of specific subgroups. Bankers, government account managers, and those who reviewed the traditional proposal have generally become more negative, while account managers who reviewed the KBB proposal and those with a KBB focus have generally become more positive. The two-stage ratings indicate a significant correlation on

only six of the 13 variables. The low correlation on the remaining variables provides further confirmation that initial perceptions of account managers are modified significantly after further due diligence and risk assessment.

Overall, this analysis revealed mixed results among the groups concerning the extent to which the lending culture reflects the needs of KBBs. Consensus among account managers who reviewed the KBB proposal at the initial review stage (eigenvalue ratio = 3.687) reflects an equal number of positive and negative perceptions compared to those who reviewed the traditional proposal. The high level of consensus at both the initial and post review stages, and the positive perceptions of account managers with a KBB focus provide some support for a KBB lending culture among this small group of specialized account managers.

CONCLUSIONS

A number of conclusions are drawn from these results. First, the results indicate significant differences in the level of agreement or consensus among the various groups of account managers at the post review stage compared to the initial review stage which confirmed a priori expectations. Results at the initial review stage indicate low levels of agreement and a significant degree of heterogeneity and turbulence among all groups of account managers, except those who reviewed the KBB proposal and those with a KBB focus. However, at the post review stage, the results confirm the emergence of a shared lending culture among three key groups of account managers. Consensus appears to develop over time as account managers engage in the full due diligence process. The lending structures and the application of lending policies/procedures appear to have a significant influence on risk assessment.

Second, the analysis of the culturally correct response keys reveals mixed results among the groups concerning the extent to which the lending culture reflects the needs of KBBs. For example, consensus among account managers who reviewed the KBB proposal at the initial review stage reflects an almost equal mix of positive and negative perceptions compared to those who reviewed the more traditional proposal. Nonetheless, the positive perceptions of specialist account managers (those with a KBB focus), especially at the post review stage, provide some support for the existence of a KBB lending culture. However, the culture is confined to a very select group of account managers, the KBB specialists. Non-specialists appear to have a markedly different lending culture towards KBBs. While the lending practices of banks and government agencies appear to be evolving to meet the needs of KBBs, entrepreneurs in KBBs are well advised to ensure their proposals garner the attention of these specialists.

Third, considering the importance of KBBs to the economy, this study's findings have important implications for policy-makers. It is apparent from these results that the specialized lending expertise required to deal with KBBs is confined to a relatively small group of account managers. As a result, government should continue to encourage banks to extend efforts to provide the requisite expertise needed to deal with financing applications from KBBs. Initiatives need not be as grandiose as establishing dedicated lending centers. They could consist of providing specialized training to select account managers. Similarly, government departments should take steps to ensure the availability of specialized expertise among account managers in the various agencies that provide assistance to KBBs.

Finally, the paper demonstrates that CA has some promise in investigating consistency in lending among banks and other lending institutions. Consensus analysis theory was able to measure agreement and shared culture in the context of commercial lending decisions. Its statistical methods provide clear interpretation guidelines and, as indicated by Romney (1999), CA represents a useful addition to statistical models, especially those appropriate to situations involving relatively small sample sizes.

An exploratory study will have some limitations. First, the relatively small sample size has some limitations in terms of generalizability of findings. Weller, Romney and Kimball (1988) provided support for obtaining reliable results using CA with small samples. Accordingly, caution should be exercised in the interpretation of some results, most notably the KBB specialists. Small sample size limits the use of multivariate statistical tests with the lack of significant differences explained by the low power of the tests.

Second, there may be limitations arising from the geographic setting as other locations may have KBB lending practices that are more highly developed than in Eastern Canada.

Third, ideally the participants should define the cultural domain. Doing so ensures the dimensions reflect the experience and reality of the account managers. In this study, the elements of the lending domain were drawn from the literature. While respondents were given the opportunity to add to the list of variables, few chose to do so. The setting during which the interviews and business plan experiments were conducted is a limitation as three banks reported that their strategies for dealing with KBBs were evolving with an organizational restructuring underway. This action may affect their approach to the KBB market.

Notwithstanding these limitations, this paper makes an important contribution to the application of consensus analysis theory by demonstrating the ability of CA to measure culture and consensus in the context of commercial and government lending.

REFERENCES

- Atlantic Canada Opportunities Agency (ACOA). (1998). *The state of small business and entrepreneurship in Atlantic Canada*. ACOA, Moncton, NB.
- Atlantic Provinces Economic Council (APEC). (1997). Information technology (IT): Transforming the Atlantic economy. Outlook '98 Seminar, St. John's, NF.
- Binks, M.R., Ennew, C.T. & Reed, G. (1992). Information asymmetries and the provision of finance to small firms, *International Small Business Journal*, 11, (1), 35-46.
- Berger, A. N. & Udell, G.F. (2003). "Small business and debt finance," in *Handbook of Entrepreneurship Research*. Kluwer Academic Publishers, Great Britain, 299-328.
- Boocock, G. & Woods, M. (1997). The evaluation criteria used by venture capitalists: Evidence from a UK venture fund. *International Small Business Journal*, 16, (1), 36-57.
- Borgatti, S.P. (1996a). ANTHROPAC 4.97. Analytic Technologies, Natick, MA.
- Borgatti, S.P. (1996b). ANTHROPAC 4.97 Methods Guide. Analytic Technologies, Natick, MA.
- Bruns, V., Holland, D.V., Shepherd, D.A. & Wiklund, J. (2008). The role of human capital in loan officers' decision policies. *Entrepreneurship, Theory and Practice*, 32, (3), 485-506.
- Caulkins, D. & Hyatt, S.B. (1999). Using consensus analysis to measure cultural diversity in organizations and social movements. *Field Methods*, 11, (1), 5-26.
- Ericsson, K.A. & Simon, H.A. (1980). Verbal reports as data. *Psychological Review*, 87, (3), 215-251.
- Fletcher, M. (1995). Decision making by Scottish bank managers. *International Journal of Entrepreneurial Behaviour and Research*, 1, (2), 37-53.
- Gorman, G. (2002). Lending to knowledge-based businesses in Newfoundland and Labrador. Doctoral Thesis: University of Stirling, Scotland.
- Gorman, G., Rosa, P. & Faseruk, A. (2005). Institutional lending to knowledge-based Businesses. *Journal of Business Venturing*, 20, (6), 793-819.

- Gorman, G. & McCarthy, S. (2006). Business development support and knowledge-based Businesses. *Journal of Technology Transfer*, 31, 131-143.
- Hays, R. (1977). *Business loans: A guide to money sources and how to approach them successfully*, CBI Publications, Boston, MA.
- Huot, P. & Carrington, C. (2006). *Small business financing profiles: high growth SMEs*. Industry Canada, Ottawa.
- Kakuru, J. (2008). The supply-demand factors interface and credit flow to small and micro enterprises in Uganda. PhD Thesis: University of Stirling, Scotland.
- Leblebici, H. & Salancik, G.R. (1981). Effects of environmental uncertainty on information and decision processes in banks. *Administrative Science Quarterly*, 26, (4), 578-596.
- Mason, C. & Stark, M. (2004). What do investors look for in a business plan? A comparison of the investment criteria of bankers, venture capitalists and business angels. *International Small Business Journal*, 22, (3), 227-248.
- McNamara, G. & Bromiley, P. (1997). Decision making in an organizational setting: Cognitive and organizational influences on risk assessment in commercial lending. *Academy of Management Journal*, 40, (5), 1063-1088.
- Mullen, M. R., Budeva, D.G. & Doney, P.M. (2009). Research methods in the leading small business-entrepreneurship journals: a critical review with recommendations for future research. *Journal of Small Business Management*, 47, (3), 287-307.
- Organization for Economic Co-operation and Development. (1996). *Technology, productivity and job creation*. OECD, Paris.
- Romney, A. K. (1999). Culture consensus as a statistical model. *Current Anthropology* 40 (Supplement), 103-115.
- Romney, A. K., Weller, S. & Batchelder, W.H. (1986). Culture as consensus: A theory of culture and informant accuracy. *American Anthropologist*, 88, (2), 313-338.
- Romney, A. K., Batchelder, W.H. & Weller, S. (1987). Recent applications of cultural consensus theory. *American Behavioral Scientist*, 31, (2), 163-177.
- Sandberg, W.R., Schweiger, D.M. & Hofer, C.W. (1988). The use of verbal protocols: Determining venture capitalists' decision processes. *Entrepreneurship Theory and Practice*, 13, (2), 8-20.
- Scott, J. A. (2006). Loan officer turnover and credit availability for small firms. *Journal of Small Business Management*, 44, (4), 544-562.
- Selltiz, C., Wrightsman, L.S., & Cook, S.W. (1976). *Research Methods in Social Relations*, Holt, Rinehart and Winston, New York.
- Shepherd, D. A. (1999). Venture capitalists' introspection: A comparison of 'in use' and espoused' decision policies. *Journal of Small Business Management*, 37, (2), 76-87.

Thompson Lightstone and Company Ltd. (1998). *Small and medium sized business in Canada: An ongoing perspective of their needs, expectations and satisfaction with financial institutions*.

Vequist, D.G. (2008). Small, entrepreneurial biotech firms and commercial bank lending: a study. *Proceedings of the 2008 Conference of the USASBE*, 1279-92.

Wang, S. (2009). Financing innovative small and medium-sized enterprises in Canada. Working paper. Small Business and Tourism Branch, Industry Canada, Ottawa.

Weller, S.C., Romney, A.K. & Kimball, A. (1988). *Systematic data collection*. Sage, Newbury Park, CA.

Wyant, L. & Hatch, J. (1991). *Banks and small business borrowers*. The Western Business School, The University of Western Ontario, London, Canada.

Zacharakis, A. & Myer, G.D. (1998). A lack of insight - Do venture capitalists really understand their own decision-process? A social judgement theory perspective. *Journal of Business Venturing*, 13, 1), 57-76.

APPENDIX 1

QUESTIONS POSED TO ACCOUNT MANAGERS

Compared to other loans/investments in your portfolio to firms in the **same** or **similar** industry, how would you rate this proposal (on a scale of 1 to 7 where 1=well below average, 4=average and 7=well above average) in each of the following areas?

	1=well below average		4=average		7=well above average		
a. market potential	1	2	3	4	5	6	7
b. business plan	1	2	3	4	5	6	7
c. collateral/security available	1	2	3	4	5	6	7
d. proven product/service	1	2	3	4	5	6	7
e. other potential funding available	1	2	3	4	5	6	7
f. stage of development of firm	1	2	3	4	5	6	7
g. track record of the entrepreneurs	1	2	3	4	5	6	7
h. uniqueness of product/service	1	2	3	4	5	6	7
i. potential cash flow	1	2	3	4	5	6	7
j. management team	1	2	3	4	5	6	7
k. demonstrated market acceptance	1	2	3	4	5	6	7
l. logistics and facilities	1	2	3	4	5	6	7
m. general economic conditions (timing)	1	2	3	4	5	6	7
n. other (specify _____)	1	2	3	4	5	6	7